



DEPARTMENT OF JUSTICE

COMPETITION AND INNOVATION: BEDROCK OF THE AMERICAN ECONOMY

Stephenson Lecturer

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It is a great honor to appear here today as the Stephenson Lecturer. I hope that my remarks will meet the high standards set by the illustrious persons who have preceded me in this role.

It has been my great privilege to have served as the Assistant Attorney General for more than three years during the Clinton administration. I am grateful to the President and Attorney General for giving me the opportunity to serve my country in this capacity and the best professional experience of my life.

I entered this Office with the strong belief that America's prosperity in the 21st Century would depend on the degree to which our economic policies promoted innovation. A review of our comparative advantages vis-a-vis international rivals convinced me that we must cast our lot with technological innovation rather than the exploitation of natural resources -- the source of much of our 19th and 20th success. I also entered office with a pronounced bias in favor of competition as the best means of promoting or facilitating technological innovation. And, I viewed vigorous, but reasoned, antitrust enforcement as an indispensable means of promoting the innovation that is so I deemed critical to the achievement of our national interest.

Not everyone shared my views. Some claimed that antitrust reflected a populism that was in fact hostile to the economic efficiency needed to prosper in the international competition that marks the end of the 20th Century. Indeed, it was asserted that vigorous antitrust enforcement hurts innovation by preventing a concentration of assets deemed necessary to spur innovation.

Competitive research was derided as duplicative and wasteful. Those arguments were even given an international flavor -- it was asserted that the firms of other nations outshone ours because they were allowed to engage in cartel activity and collaborative research denied to U.S. firms because of the antitrust laws. As a general theoretical proposition, I thought that those views were simply wrong -- innovation generally is not best advanced by a policy of permitting cartel activity at the expense of competition. As you will see from a few examples cited below, recent history and much empirical evidence supports my view.

To analyze these issues, it is imperative to have a clear understanding of how modern antitrust law is applied. It serves no useful purpose to debate whether the early antitrust decisions elevated sociopolitical considerations over economic efficiency. If they did, that is no longer the case. Congress drafted the antitrust laws in sufficiently general terms to delegate to the courts the task of developing an antitrust jurisprudence that is consistent with contemporary concepts of economic efficiency and consumer welfare. And the courts and federal antitrust enforcement agencies have accepted that responsibility. As a result, current antitrust law is not anti-business; it does not view large size with suspicion; and it recognizes the economic concepts of economies of scale and scope. In the same vein, it is now clearly true that antitrust typically does not treat as inherently suspect horizontal or vertical joint ventures designed to integrate substantial business assets. This is especially true with respect to those types of joint ventures that are most directly involved in innovation. Such joint ventures had rarely been challenged under the antitrust laws. But, to clarify matters, in 1984 Congress took action to lessen what was perceived to

be an inhibitory effect of antitrust enforcement by making it clear that research and development joint ventures were to be judged under a rule of reason test. In 1993, Congress took similar action with respect to production joint ventures. As a result, legitimate joint or collaborative activity among rivals is not viewed as inherently suspect under our antitrust laws.

The economist Joseph Schumpeter was one of the first to articulate a theory that firms with stable and substantial market power were the most likely to invest in innovation. In particular, he suggested that firms with substantial market power -- those that did not have to think in terms of short-term response to rivals -- were the most likely to invest in the long-range research and development that leads to major innovation. While not implausible as a matter of theory, Schumpeter's thesis has been severely undercut by real world developments. In a world driven by rapid changes in technology, empirical evidence indicates that the firms that prosper are far more likely to be those that face fierce rivalry in their home markets than the sheltered monopolists. In a very real sense, the fear of being left behind is more likely to spur innovation than the security bred of stable market power.

This subject is extensively dealt with in Professor Michael Porter's recently acclaimed work, The Competitive Advantage of Nations. Noting that the need for antitrust enforcement has been questioned because of the globalization of industries and the view that domestic firms must merge or closely collaborate to gain economies of scale, Professor Porter found such claims to be inconsistent with available empirical evidence in the ten nations

that he and his colleagues studied. Rejecting arguments that call for lenient merger and cartel policies, he states that

"in fact, creating a dominant domestic competitor rarely results in international competitive advantage. Firms that do not have to compete at home rarely succeed abroad. Economies of scale are best gained by selling globally, not through dominating the home market. . . ." Id. at 662.

Observing that corporate managers often support lenient merger and collaboration policies because it is a "tempting way to raise short-term profits," Professor Porter views such policies as the path to national decline. Pointing to evidence that "active domestic rivalry is strongly associated with international success," he concludes that "a strong antitrust policy, especially in the area of horizontal mergers, alliances and collusive behavior, is essential to the role of upgrading any economy." Id. at 663.

In view of my bias in favor of vigorous competition as a precondition of economic welfare, I was not surprised by Professor Porter's findings. I have always felt that rivalry, not market power, fostered innovation and efficiency over the long run. An effective antitrust enforcement program promotes innovation by, among other things, reducing barriers to entry. When antitrust enforcement is a reality, potential entrants have less reason to fear market exclusion by existing firms. Antitrust enforcement can also act to prevent horizontal or vertical mergers that create non-efficiency based advantages for incumbent market leaders. For these and other reasons, potential entrants are more likely to invest the capital and effort needed for innovation when they have a "fair" chance at success, that is, when they have a chance to compete on the economic merits of their products or services. Indeed, for that reason I

think it abundantly clear that strong antitrust enforcement promotes, rather than impedes, innovation.

When I first became Assistant Attorney General, I spoke with a lot of people with antitrust experience about what they perceived to be the areas to which I should first direct my attention. Many expressed a concern that there existed considerable uncertainty as to the application of antitrust doctrine to intellectual property rights, and that this uncertainty constituted a disincentive for innovation.

Recognizing the importance to innovation of a clear and coherent antitrust policy relating to intellectual property rights, I promptly established a Task Force chaired by then Deputy assistant Attorney General Richard Gilbert, to review the Division's policies in this area. At that time, the Division had not attempted a comprehensive statement of its intellectual property views in a "stand alone" fashion. Rather, our I.P. views were set out as part of our International Guidelines. Since there is nothing uniquely "international" about most antitrust issues relating to intellectual property rights, I thought that it would be better to separate the subject matters, and we have since issued, together with the Federal Trade Commission, two separate sets of guidelines -- one for intellectual property issues and the other for antitrust issues that are international in nature.

Our Intellectual Property Guidelines recognize that the intellectual property laws permit the owners of intellectual property rights to profit from the use of their property by excluding others. Owners of other forms of property

may enjoy similar rights. As with other forms of property, while most acquisitions or uses of intellectual property are unobjectionable, some may have anticompetitive effects against which the antitrust laws can and do protect consumers. The important factor, however, is that intellectual property is neither free from scrutiny, nor particularly suspect, under the antitrust laws.

The fact that our Guidelines make it clear that intellectual licensing restrictions are not necessarily suspect hopefully will dispel some unwarranted concern that may have impeded innovation. We recognize that licensing, cross-licensing or otherwise transferring intellectual property can facilitate its integration with complementary factors of production. A more efficient exploitation of intellectual property benefits consumers by reducing costs, accelerating the introduction of new products, and in some cases avoiding costly litigation. To the extent that the ability to license increases expected returns from intellectual property, it creates greater incentives to invest in new intellectual property.

As a result, it is important that antitrust generally recognizes the procompetitive effects of many types of licensing agreements. Thus, field-of-use, territorial and other limitations on licenses may be procompetitive to the extent that they allow the licensor to exploit its property rights most efficiently. Various forms of exclusivity can encourage the licensee to invest in the commercialization or distribution of the licensed product and to develop, additional applications for the licensed property. They may do so by affording the licensee some measure of protection against "free riding" by other licensees or the licensor itself. They may also promote the licensor's incentive to license,

by protecting it from competition from its own technology in a market niche that it prefer to keep to itself.

The Guidelines indicate that in the vast majority of cases, intellectual property licensing arrangements will be evaluated by the Department of Justice under a rule of reason that weights the potential anticompetitive effects against the potential procompetitive effects of the restraint. Where licensing agreements are used to implement horizontal or vertical price fixing or constitute a sham to disguise non-intellectual property agreements that are ordinarily per se illegal, we will apply a per se approach after ascertaining the true nature of the arrangement. We will continue to follow the case law which holds that certain tying practices involving intellectual property licensing are per se illegal. The Department, however, will not presume market power solely from the existence of a patent or other intellectual property right. We will also continue to consider a business justification defense in a tying case.

Having stated that intellectual property licensing is generally procompetitive, I would be remiss if I did not note several categories of restraints that could raise competitive concerns. For example, holders of intellectual property rights may improperly use them to coordinate a cartel and suppress competition in alternative technologies, to raise barriers to entry in other markets, or to extend the period of exclusion beyond the statutory term. A licensing agreement that transfers little improved intellectual property, but imposes significant restraints on entities that otherwise would compete using alternative technologies could significantly impair competition. Similarly, an arrangement that effectively merges the research and development activities of

two of a very few entities that could plausibly engage in the relevant market might very well harm competition in the development of new intellectual property. If any of these events occur, the result may be reduced output, unsanctioned monopoly profits, and stifled innovation.

The publication of the Intellectual Guidelines represented an Administration effort to clearly articulate the appropriate relationship between our antitrust and intellectual property policies. In view of the importance of these issues, I have augmented the professional staff of the Antitrust Division with attorneys and economists with experience relating to intellectual property issues. I have also created the position of Senior Counsel for Intellectual Property Issues and appointed Chris Kelly, an able and experienced attorney to that position. Among his responsibilities is coordinating the outreach program that the Division has with other government agencies and the private bar that are interested in intellectual property issues.

In addition to clarifying the state of the law by publishing the Intellectual Property guidelines, the Antitrust Division in the Clinton Administration has clarified the law by filing lawsuits against companies that we believed overstepped the limits of their intellectual property rights in a manner that violated the antitrust laws, and threatened to reduce innovation. Let me give you a few brief examples.

In *United States v. Pilkington plc & Pilkington Holdings Inc.*, the Complaint charged the British firm Pilkington plc and its U.S. subsidiary with violating Section 1 of the Sherman Act by agreeing to unreasonably restrain

trade in the construction and operation of float glass plants and in technology for producing glass through the float process. The Complaint also alleged that the defendants monopolized the world market for the design and construction of float glass plants. According to the Complaint, markets around the world had been allocated pursuant to restrictions in licenses for patents and other intellectual property relating to the float glass process, even though the underlying patent rights had since expired, removing any protection for the restraints. The case was settled by a consent decree, which among other things prohibits the defendants from restricting U.S. and foreign firms from bidding on plant construction projects in the United States and from restricting the ability of U.S. firms to bid on projects.

In *United States v. Microsoft Corp.*, the Division charged that Microsoft, in violation of Section 2 of the Sherman Act, illegally maintained its monopoly in operating systems for personal computers through restrictive licensing agreements with PC makers (called original equipment manufacturers, or "OEMs") and restrictive non-disclosure agreements with independent software vendors. The Complaint also alleged that these agreements were unreasonable restraints of trade in violation of Section 1 of the Sherman Act. One of the provisions in the defendant's agreements with OEMs required payment to Microsoft for each PC the OEM shipped, whether or not the machine contained any Microsoft software. This provision acted as a tax on OEMs' use of competing PC operating systems. The case was settled by consent decree, which in part prohibits Microsoft from including certain unreasonably restrictive provisions in its contracts with OEMs and independent software vendors.

United States v. S.C. Johnson & Son, Inc. & Bayer A.G. is a case in which, we alleged that a patent license agreement between the defendants violated Section 1 of the Sherman Act. Johnson dominated the highly concentrated U.S. household insecticide market. Bayer developed and patented a new active ingredient for household insecticides and prepared to enter the U.S. market with its own product. It then abandoned its plans and granted a license for its active ingredient to Johnson. It did not license any other U.S. manufacturer. The case was settled by consent decree, which in part requires Bayer to license its ingredient to other interested parties for the United States.

In *United States v. American National Can Co. and KMK Maschinen* *AG*, a case filed by the Division earlier this year, the Division challenged an agreement under which ANC, the leading U.S. manufacturer of toothpaste tubes (laminated tubes) acquired the exclusive right to use KMK's tube-making equipment and technology in the U.S. Since KMK was one of only a very few companies capable of making such tubes, the agreement prevented other firms from entering the market to challenge ANC. We obtained a Consent Decree that vacated the illegal agreement and prohibited the defendants from entering into similar agreements with other parties.

In *United States v. General Electric Co.*, a case filed just last month, the Division challenged GE's attempt to extract commitments from its licensees not to compete with GE in servicing medical equipment of the type for which GE's advanced diagnostics are licensed. We believe that the defendant's conduct, by reducing the number of repair service providers, has impaired competition in

medical equipment manufacturing in a manner unrelated to GE's legitimate interests in licensing its software and manuals.

Finally, earlier this month, the Department filed an amicus brief in the Eighth Circuit in *Oasis Publishing Co., Inc. v. West Publishing Co.*. In that brief, we urged the Appellate Court to reconsider its previous endorsement of a standard that to our mind gave too broad copyright protection to "factual compilations" and by doing so needlessly restrained competition and innovation.

I am proud of the Divisions intellectual property initiatives over the last three years, and have no doubt that they will continue.

Innovation, of course, takes many forms. The term is applied to basic scientific breakthroughs, important commercial inventions, product modifications and new production techniques. All are important to society. Innovation, whether in the form of improved product quality and variety or production efficiency that allows lower prices, is a powerful engine for enhancing consumer welfare. By prohibiting private restraints that impede entry or mute rivalry, antitrust seeks to create an economic environment in which the entrepreneurial initiative that is the hallmark of the U.S. economy can flourish; it creates and maintains opportunities for bringing innovations to market. Similar benefits flow from avoiding or eliminating governmentally-imposed restraints on competition. That is why the Department of Justice, for many years, on a bi-partisan basis, has sought to persuade a variety of

regulatory agencies that the best way to serve the public interest was to promote competition within the industries subject to their regulation.

While I acknowledge that an occasional natural monopoly may arise, and that enormous economies of scale may inevitably reduce rivalry to a few in some markets, I remain skeptical about any general policy of eschewing rivalry in favor of collaborative research and development. This nation's experience teaches that innovation comes from unpredictable sources -- from individuals and small firms as well as giant conglomerates. And this diversity in the sources of innovation is not limited to the 19th and early 20th centuries, when change arguably occurred less rapidly. If you compare the major firms in the computer and telecommunications industries in the 1950s, '60s, and '70s with the major firms today, you will see that rapid technological change can create opportunities for new entrants and individual achievement. It is not difficult to make a list of large U.S. firms who once possessed some degree of market power only to fall back when confronted by more innovative rivals. It includes IBM, Wang, Digital Equipment, GM, big steel, major airlines, Citicorp, and you can undoubtedly think of additional examples. Happily, a number of these firms have demonstrated the ability to rebound, but their improved performance was stimulated by the rivalry they had encountered. The task of government policy is not to prejudge winners but to make sure that neither private nor public restraints narrow the potential sources of innovation. By preserving an economic climate that allows efficient sources of innovation to prosper, be they small or large, competition policy promotes the economic and socio-political values that have been the backbone of the success of the American economy.

We need not look solely to theory for evidence that competition promotes innovation. The government's monopolization case against AT&T presents a clear "before and after" snapshot showing the beneficial effects of antitrust enforcement and competition policy on innovation. Prior to that lawsuit, most of the nation was served by an integrated monopolist that faced little or no rivalry in the various telecommunications markets in which it operated. The quality of service provided by that integrated monopolist was not terrible; to the contrary, it was considered good when compared to that provided in other countries by their monopoly providers. However, consumer choice was hardly the hallmark of the integrated AT&T system. For the most part, improvements appeared at a pace dictated by AT&T and its lengthy depreciation schedules, not by the needs of business or residential customers.

The divestiture required in the Modified Final Judgment in U.S. v. AT&T separated the local telephone companies from AT&T's long-distance service and equipment manufacturing firms. The newly-independent local phone companies were required to provide access to AT&T's long distance rivals that was functionally equivalent to that provided to AT&T. Other equipment manufacturers were provided an opportunity to sell their wares on the basis of quality, cost and efficiency to the divested local operating companies, AT&T's emerging long distance rivals, and users of telecommunications services. In terms of innovation, the results have been spectacular. Fiber optic cable was promoted by Corning to Sprint and MCI. Advantages over the older cable technology for certain purposes were sufficiently clear that it is now widely deployed in local as well as long distance phone network. The advances in fiber optics triggered responsive unexpected

improvement in coaxial cable, through digital compression and other techniques. At the same time, satellite and other wireless technologies have advanced to offer still more options. How will these technologies be deployed in the Information Super Highway of the future? In what proportions will they be used? Which will be dominant? Which will be complementary? Which will be rendered obsolete? Nobody can speak with certainty on such issues. But one thing is clear -- intelligent competition policy and antitrust enforcement action served as a catalyst to technological innovation in telecommunications that is extraordinary by any measure. And the best technology is most likely to succeed in a competitive environment.

The arguments of those who endorse collaborative research and the development of national champions as the generally preferred method of advancement find little support in recent developments. Where commercial success depends on such ephemeral factors as consumer taste for services or products that do not yet exist and the pace and direction of new technology, there appears to be a definite advantage to fostering a competitive approach rather than developing a national champion. The history of HDTV technology development provides a vivid example. You may recall that both Japan and the European Community promoted a single chosen technological approach well in advance of technological readiness or clear expression of consumer desires. By contrast, the U.S. approach was to promote rivalry in technological design. Initially, the chosen instrument approach to technology seemed to pay off, as both Japan and the EC developed prototypes before we did. However, there is often a difference between getting the quickest start and winning the race, a fact sadly recognized by Boston Red Sox fans over the years, and that is what

appears to have happened with respect to HDTV development. At this point, neither the Japanese nor European systems have experienced any significant commercial success in their home markets. More importantly, there appears to be a growing consensus that a digital approach such as that developed by the various U.S. rivals will be superior to the analog systems utilized by the Japanese and Europeans.

I discuss the post-AT&T divestiture developments and the HDTV history as cautionary tales, not as proof that a chosen instrument approach to innovation can never succeed. I am not so presumptuous as to make such a categorical claim. These tales, however, and others that I will relate in a moment, reinforce my view that competitive markets are likely to be superior to government planning in bringing about innovation that will satisfy consumer tastes and needs.

The salutary effect of competition on innovation has been demonstrated repeatedly in this country when a variety of previously regulated industries have been deregulated, either in whole or in part. I have already talked about telecommunications in connection with the AT&T divestiture. But I would be remiss if I failed to credit at least part of the dynamism of that industry to the deregulatory actions of the FCC over the past 25 years. And, earlier this year Congress passed the Telecommunications Act of 1996 -- legislation designed to promote competition in both local and long distance telephone service as well as in-home entertainment programming. Deregulation of land and air transportation has also allowed consumers to reap the benefits of innovations in those fields. Freed of limitations on entry, trucking firms and airlines have

deployed new and specialized types of equipment based on consumer desires and efficiency. In both of these fields, fierce service rivalry has produced substantial benefits to consumers. For example, the entry and subsequent growth of Southwest Airlines stimulated price competition that has benefitted air travelers. Our securities industry provides another example of the benefits of competition. Since Congress reduced economic regulation of the securities industry, consumers of such services have saved hundreds of millions of dollars annually and have been offered the option of using a wide variety of new and innovative financial services. Numerous strong firms compete for business on the basis of quality as well as price. Employing the latest developments in computer technology, they seek to provide consumers with added value, in forms that range from greater convenience to enhanced ability to reduce investment risk. The Department of Justice's recent antitrust action against members of NASDAQ will have the effect of removing private restraints on the competition made possible by new technology.

In response to those who point to certain foreign successes as proof that a collaborative or chosen instrument approach to innovation is the better way, I make the following response. It was not foreign monopoly airlines that were at the forefront of international expansion. Rather, it was our airlines, toughened by domestic rivalry, that were the first to display a willingness to compete on a global basis. Similarly, the U.S. telecommunications industry, both carriers and equipment manufacturers, is leading the way in attempts to modernize telecommunications capabilities around the world. And, while it is by no means a one-way street, U.S. banks and securities firms seem to be more willing and anxious to compete abroad than their foreign counterparts, who

have developed in a more sheltered environment. There are many other examples of industries in which the rough and tumble of U.S. competition has prepared our firms to play a leading role in international commerce. U.S. law firms, accounting firms, consulting firms, and advertising firms have all been, in general, more willing than their foreign counterparts to expand abroad. They have proved to be at least as adept as their foreign counterparts in innovating to meet the new and changing requirements of international trade.

Do not be misled by the fact that many of these examples involve services. Rivalry in domestic product markets also benefits U.S. manufacturers in their international efforts. Can there be any doubt that the relatively open U.S. automobile markets placed great pressure on U.S. auto firms to improve their products and efficiency? As a result, with better products, produced in factories that adopted recent innovations, the U.S. firms seem poised to regain international preeminence, or at least a place in the very first rank of auto producers. Telecommunications equipment, aircraft, agricultural equipment, pharmaceuticals, computers (hardware and software), medical equipment, and entertainment are other examples of U.S. products and services that excel in international competition, at least in part, because of the fierce quality rivalry that characterizes our domestic markets.

You can plainly see that I have at least two strongly-held beliefs: that innovation is critically important to the advancement of this nation's economic interests, and that, in general, the competitive approach is superior to the collaborative approach in terms of producing commercially valuable innovation. I do not, however, want you to lose sight of some important

qualifications to my general preference for the competitive approach. I have already noted them, but they bear repetition. I recognize that there may be situations in which collaboration in R&D or production may be necessary or simply more efficient than unilateral efforts. The Antitrust Division, in fact, has issued a number of business review letters indicating that we will not challenge specific joint activity designed to spur innovation without needlessly sacrificing competition. We are well aware of the cost and risk reduction benefits of economies of scale and scope that attend some joint ventures. In some rare instances, risk reduction or economies of scale may even justify a unified approach to research and development, but we should require those who promote that view to demonstrate why competition would be an inferior approach.

A similar reservation is appropriate with respect to government involvement in innovation. My celebration of the competitive benefits that usually flow to consumers from economic deregulation should not be viewed as denying any role to government. There is most definitely a role for government in the innovative process. The market does not do everything well. Appropriately, we do not rely solely on the market to protect us from unsafe products and workplaces, or from despoliation of the environment. In the same manner, government can provide an innovation vision, can suggest priorities, can provide an infrastructure through education and standardization, and in some cases can accelerate research in areas of potentially great value to society by providing planning and even financial assistance. But, where consumer desires are uncertain, and the technology is as yet undeveloped, we should not lose sight of our experience -- governments generally do not do well at picking

winners and losers from among competing technologies. Rather, competition is generally the most effective means of promoting the innovation that is critical to our nation's success in the international community of the 21st Century.